

CLAIMS

1 1. A method for active vaccination against autologous cells expressing
2 transmembrane proteins comprising administering to a patient a vaccine composition
3 comprising at least an immunogenic portion of the extracellular domain of the
4 transmembrane protein, or a xenogeneic homolog thereof, coupled to or administered with an
5 carrier protein effective to break tolerance to the transmembrane protein and a
6 pharmaceutically acceptable adjuvant.

2 2. The method of claim 1, wherein the transmembrane protein is selected
3 from the group consisting of CD20, Her2-neu, VEGF receptor, epidermal growth factor
4 receptor, the CD19 molecule, interleukin-2-receptor, interleukin-4-receptor, and the P-
5 glycoprotein.

1 3. The method of claim 1, wherein the transmembrane protein is CD20.

1 4. The method of claim 1, wherein the vaccine composition comprises a
2 peptide having the sequence given by Seq. ID No 1 or 2.

1 5. The method of claim 1, wherein the carrier protein is keyhole limpet
2 hemocyanin.

1 6. The method of claim 5, wherein the transmembrane protein is selected
2 from the group consisting of CD20, Her2-neu, VEGF receptor, epidermal growth factor
3 receptor, the CD19 molecule, interleukin-2-receptor, interleukin-4-receptor, and the P-
4 glycoprotein.

1 7. The method of claim 5, wherein the transmembrane protein is CD20.

1 8. The method of claim 7, wherein the vaccine composition comprises a
2 peptide having the sequence given by Seq. ID No 1 or 2.

1 9. A method for active vaccination against B cells expressing CD20
2 comprising administering to a patient a vaccine composition comprising at least an
3 immunogenic portion of the extracellular domain of CD20, or a xenogeneic homolog thereof,
4 coupled to or administered with an carrier protein effective to break tolerance to the
5 transmembrane protein and a pharmaceutically acceptable adjuvant.

1 10. The method claim 9, wherein the carrier protein is keyhole limpet
2 hemocyanin.

1 11. The method of claim 9, wherein the vaccine composition comprises a
2 peptide having the sequence given by Seq. ID No 1 or 2.

1 12. A method for treatment of B cell non-Hodgkin's lymphoma,
2 comprising administering to a patient suffering from B cell non-Hodgkin's lymphoma a
3 vaccine composition comprising at least an immunogenic portion of the extracellular domain
4 of CD20, or a xenogeneic homolog thereof, coupled to or administered with an carrier protein
5 effective to break tolerance to the transmembrane protein and a pharmaceutically acceptable
6 adjuvant.

1 13. A vaccine composition comprising at least an immunogenic portion of
2 the extracellular domain of the transmembrane protein, or a xenogeneic homolog thereof,
3 coupled to or administered with an carrier protein effective to break tolerance to the
4 transmembrane protein and a pharmaceutically acceptable adjuvant.

1 14. The composition of claim 13, wherein the transmembrane protein is
2 selected from the group consisting of CD20, Her2-neu, VEGF receptor, epidermal growth

- 15 -

3 factor receptor, the CD19 molecule, interleukin-2-receptor, interleukin-4-receptor, and the
4 P-glycoprotein.

1 15. The composition of claim 13, wherein the transmembrane protein is
2 CD20.

1 16. The composition of claim 15, wherein the vaccine composition
2 comprises a peptide having the sequence given by Seq. ID No 1 or 2.

1 17. The composition of claim 13, wherein the carrier protein is keyhole
2 limpet hemocyanin.

1 18. The composition of claim 17, wherein the transmembrane protein is
2 selected from the group consisting of CD20, Her2-neu, VEGF receptor, epidermal growth
3 factor receptor, the CD19 molecule, interleukin-2-receptor, interleukin-4-receptor, and the P-
4 glycoprotein.

1 19. The composition of claim 17, wherein the transmembrane protein is
2 CD20.

1 20. The composition of claim 19, wherein the vaccine composition
2 comprises a peptide having the sequence given by Seq. ID No 1 or 2.